

In the Claims:

Please amend claim 12 as indicated below. The status of all claims is as follows:

1. ~~(Previously presented)~~ A magnetic recording medium comprising:  
at least one exchange layer structure; and  
a magnetic layer formed on said exchange layer structure,  
said exchange layer structure including:  
a ferromagnetic layer; and  
a non-magnetic coupling layer provided on said ferromagnetic  
layer and under said magnetic layer,  
said ferromagnetic layer and said magnetic layer having antiparallel  
magnetizations.

2. (Previously presented) The magnetic recording medium as claimed in claim 1, wherein said ferromagnetic layer is made of a material selected from a group consisting of Co, Ni, Fe, Ni alloys, Fe alloys, and Co alloys.

3. (Original) The magnetic recording medium as claimed in claim 1, wherein said ferromagnetic layer has a thickness in a range of 2 to 10 nm.

4. (Previously presented) The magnetic recording medium as claimed in claim 1, wherein said non-magnetic coupling layer is made of a material selected from a group consisting of Ru, Rh, Ir, Ru alloys, Rh alloys, and Ir alloys.

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5. (Original) The magnetic recording medium as claimed in claim 1, wherein said non-magnetic coupling layer has a thickness in a range of 0.4 to 0.9 nm.

6. (Previously presented) The magnetic recording medium as claimed in claim 1, wherein said magnetic layer is made of a material selected from a group consisting of Co and Co alloys.

7. (Original) The magnetic recording medium as claimed in claim 1, which further comprises:

a substrate; and

an underlayer provided above said substrate,

said exchange layer structure being provided above said underlayer.

8. (Previously presented) The magnetic recording medium claimed in claim 7, which further comprises:

a non-magnetic intermediate layer interposed between said underlayer and said exchange layer structure,

said non-magnetic intermediate layer having a hcp structure alloy selected from a group consisting of CoCr-M, where M = B, Mo, Nb, Ta, W or alloys thereof, and having a thickness in a range of 1 to 5 nm.

9. (Original) The magnetic recording medium as claimed in claim 8, which further comprises:

a NiP layer interposed between said substrate and said underlayer, said NiP layer being mechanically textured or oxidized.

10. (Previously presented) The magnetic recording medium as claimed in claim 7, wherein said underlayer is made of a B2 structure alloy selected from a group consisting of NiAl and FeAl.

11. (Original) The magnetic recording medium as claimed in claim 1, which comprises at least a first exchange layer structure and a second exchange layer structure interposed between said first exchange layer structure and said magnetic layer, wherein a ferromagnetic layer of said second exchange layer structure has a magnetic anisotropy lower than that of a ferromagnetic layer of said first exchange layer structure, and

magnetizations of the ferromagnetic layers of said first and second exchange layer structures are antiparallel.

12. ~~(Currently amended)~~ The magnetic medium as claimed in claim 1, in which said at least one exchange layer structure comprises at least a first exchange layer structure and a second exchange layer structure interposed between said first exchange layer structure and said magnetic layer, wherein said first exchange layer structure and said second exchange layer structure each include a ferromagnetic layer and a non-magnetic coupling layer provided on the ferromagnetic layer, wherein a product of a remanent magnetization and thickness of a the ferromagnetic layer of said second exchange layer structure is smaller than that of a the ferromagnetic layer of said first exchange layer structure, and magnetizations of the ferromagnetic layers of said first and second exchange layer structure are antiparallel.

13-18. Canceled.

19. (Previously presented) The magnetic recording medium as claimed in claim 1, which is configured and arranged for longitudinal magnetic recording.

20. (Previously presented) A magnetic recording medium for longitudinal magnetic recording, comprising:

at least one exchange layer structure; and

~~a magnetic layer formed on said exchange layer structure, said exchange~~  
layer structure including:

a ferromagnetic layer having a thickness in a range of 2 to 10 nm;

and

a non-magnetic coupling layer provided on said ferromagnetic layer and under said magnetic layer,

said ferromagnetic layer and said magnetic layer having antiparallel magnetizations.

21. (Previously presented) The magnetic recording medium as claimed in claim 20, wherein said non-magnetic coupling layer has a thickness in a range of 0.4 to 0.9 nm.

22. (Previously presented) A magnetic recording medium for longitudinal magnetic recording, comprising:

at least one exchange layer structure; and

a magnetic layer formed on said exchange layer structure, said exchange layer structure including:

a ferromagnetic layer; and

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a non-magnetic coupling layer, having a thickness in a range of 0.4 to 0.9 nm, provided on said ferromagnetic layer and under said magnetic layer, said ferromagnetic layer and said magnetic layer having antiparallel magnetizations.

23. (Previously presented) A magnetic recording medium for longitudinal magnetic recording, comprising:

at least one exchange layer structure; and

a magnetic layer formed on said exchange layer structure, said exchange layer structure including:

a ferromagnetic layer; and

a non-magnetic coupling layer, having a thickness of approximately 0.8 nm, provided on said ferromagnetic layer and under said magnetic layer, said ferromagnetic layer and said magnetic layer having antiparallel magnetizations.

24. (Previously presented) The magnetic recording medium as claimed in claim 1, wherein said ferromagnetic layer is made of a material selected from a group consisting of CoCrTa, CoCrPt, and CoCrPt-M, where M = B, Mo, Nb, Ta, W or alloys thereof.

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25. (Previously presented) The magnetic recording medium as claimed in claim 1, wherein said magnetic layer is made of a material selected from a group consisting of CoCrTa, CoCrPt and CoCrPt-M, wherein M = B, Mo, Nb, Ta, W or alloys thereof.

26-36. Canceled.